

Reg. No. :

**Question Paper Code : 52753**

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Third Semester

Civil Engineering

CE 6301 — ENGINEERING GEOLOGY

(Regulation 2013)

(Common to : PTCE 6301 – Engineering Geology for B.E. (Part – Time) – Second Semester – Civil Engineering – (Regulation – 2014))

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Draw the internal structure of earth.
2. What is Exfoliation?
3. Differentiate between colour and streak of minerals.
4. Differentiate between muscovite and biotite.
5. Define crushing strength of a rock.
6. Write short note on the importance of texture and structure of a building stone.
7. What are Joints and Joint sets?
8. Define the term 'Rock Quality Designation' (RQD).
9. What is meant by the term "overlap" in remote sensing?
10. List the causative factors of landslides.

PART B — (5 × 13 = 65 marks)

11. (a) Write elaborately on physical and chemical weathering of rocks. What is the significance of weathering of rocks in Civil Engineering?

Or

- (b) Describe the geological work of sea and its engineering considerations.

12. (a) List the physical properties of minerals and describe each property with examples from the mineral kingdom.

Or

- (b) Describe the composition, properties, varieties and uses of Gypsum, Quartz and Feldspar.

13. (a) Outline the various engineering properties of rocks, and give a detailed account of the laboratory and field test to be carried out to estimate such properties.

Or

- (b) Write detailed notes on the mineral composition, texture, origin, engineering properties and uses of

- (i) Granite
- (ii) Dolerite
- (iii) Sandstone and
- (iv) Marble.

14. (a) Explain folding in rocks and describe the various types of folds.

Or

- (b) Explain how the geophysical methods help in knowing about sub-surface features during civil engineering investigations.

15. (a) Illustrate with neat sketches about land slides and their types. What are the various measures to control landslides?

Or

- (b) Explain how remote sensing is done. Discuss in detail on remote sensing application in Civil Engineering.

PART C — (1 × 15 = 15 marks)

16. (a) Using case studies of structural failures, discuss the importance of geological investigations for the design and construction of large civil structures.

Or

- (b) Natural disasters in India can be understood better and controlled well, if geology is understood well. Give your opinion about this statement using appropriate case studies.